

# SMW<sup>+</sup> - a Semantic Enterprise Wiki based on Semantic MediaWiki

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Service Resolution Management



ntic Infrastructur  
ntic Infrastructur



cs for SharePoint

cs for SharePoint



## Check the Pre-requisites:

- Supported browsers: IE 8, Firefox 4.x and 6.x

## Read everything after here:

- <http://tinyurl.com/handson1>

## Open the URL:

- <http://tinyurl.com/SMW-Fall2011/>

**Please create an account in the Wiki.**

# SMW<sup>+</sup> in a nutshell

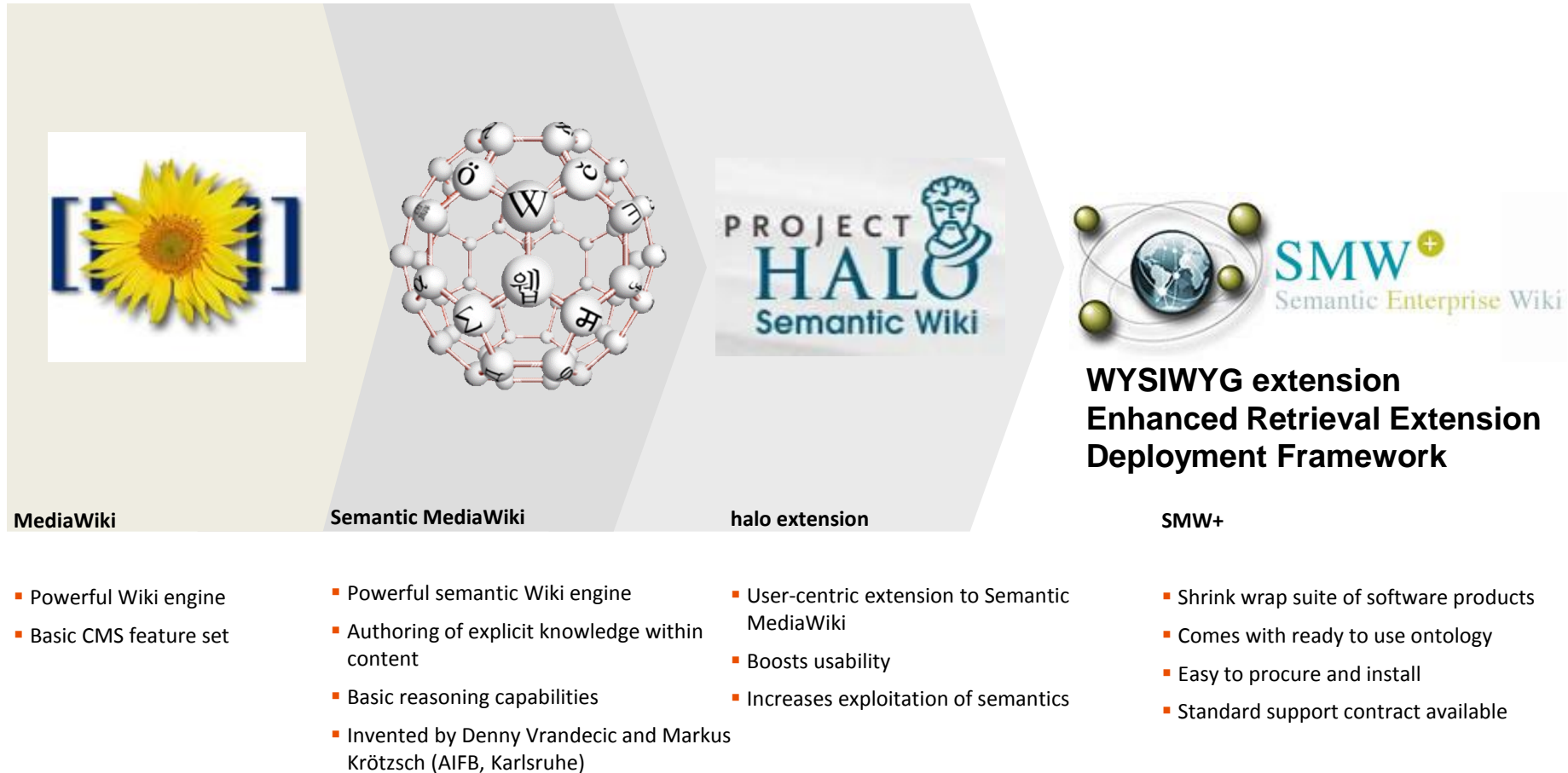
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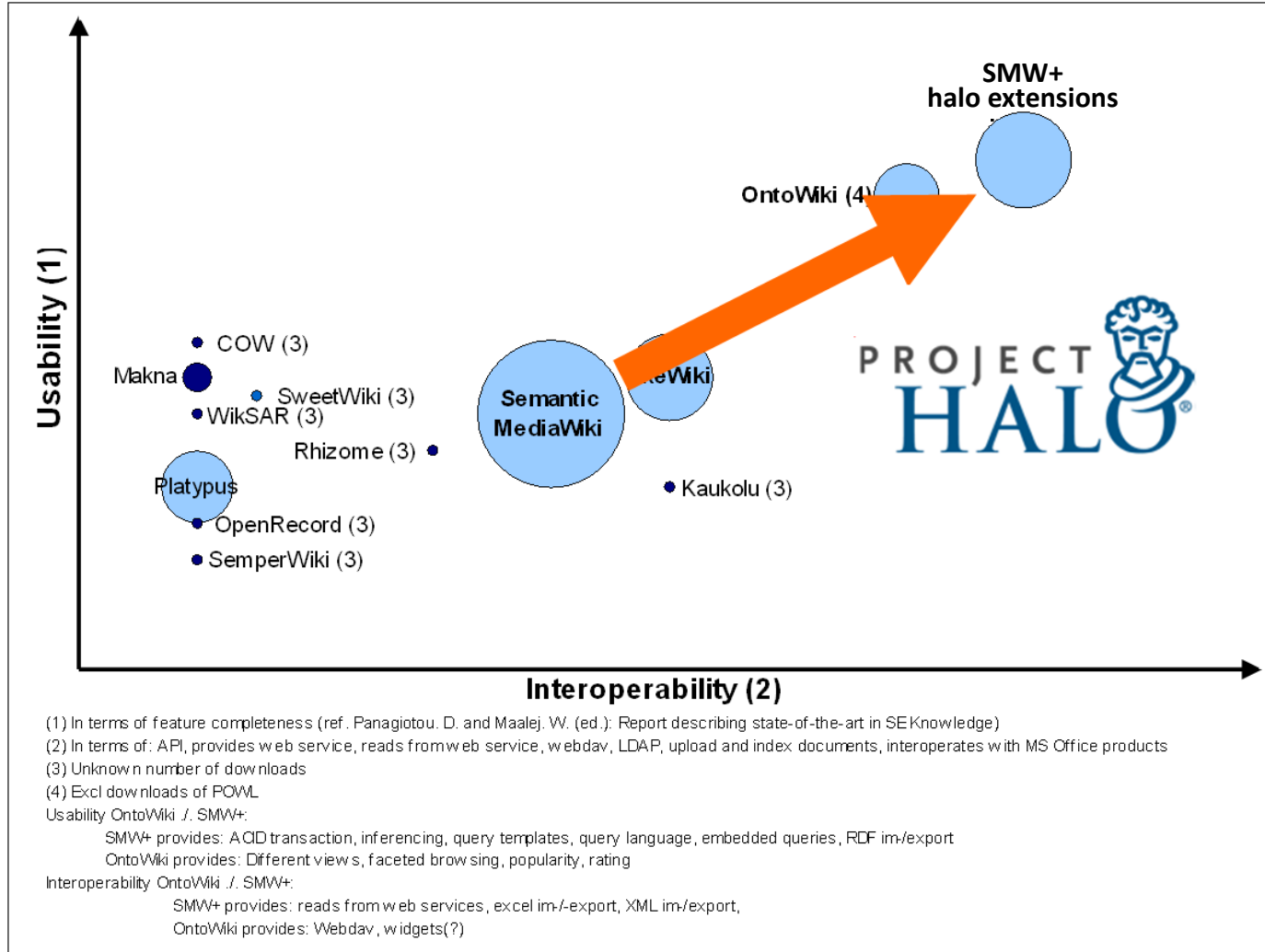
**SMW<sup>+</sup> is a Semantic Enterprise Wiki  
for agile collaboration on rich text and data**

- **It is a Wiki:** *Platform for web-based collaboration and quick authoring and provision of content.*
- **It is a database:** *Users embed data in text that can be retrieved with powerful data query mechanisms.*
- **It is a data integration tool:** *Users access data from external databases, web services or the Semantic Web from within the Wiki.*
- **It is enterprise-ready:** *Installs in 15 minutes and comes with business-critical features. Extendible and scalable.*

# SMW<sup>+</sup> is built upon software for expert users



# Building the best Semantic Wiki in project halo<sup>[1]</sup>



1. [http://wiki.ontoprise.com/wiki/index.php/Faq/project\\_halo](http://wiki.ontoprise.com/wiki/index.php/Faq/project_halo)

# Examples of improvements

## Faceted Search

*Explore semantic data exceptionally fast*

- Drill-down search results by categories, properties, and their values
- Find relevant articles, facts, and semantic content
- Identify suitable properties for queries

### Faceted Search

#### Search

##### Selected facets

■ Skyscrapers between 250 and 299 meters ✕

▼ Located in ✕  
■ Chicago (3)  
remove range

remove all

##### Categories

■ Skyscrapers in Chicago, Illinois (3)  
■ Building (3)  
■ Condominiums in Chicago, Illinois (2)  
■ University and college academic buildings in the United States (1)  
■ Residential skyscrapers in Chicago, Illinois (1)

Result 1 to 3 of 3

#### Aqua (skyscraper) ⓘ

is in category: Apartments in Chicago, Illinois | Condominiums in Chicago, Illinois | (more)

has properties: (show)

Last changed: 2011-02-24 11:39

#### Chase Tower (Chicago) ⓘ

is in category: Building | Buildings and structures | Office buildings in Chicago, Illinois | (more)

has properties: (show)

Last changed: 2011-02-24 11:39

#### Legacy Tower ⓘ

is in category: Building | Condominiums in Chicago, Illinois | Skyscrapers in Chicago, Illinois | (more)

has properties: (show)

Last changed: 2011-02-24 11:39

< Previous 1 Next >

Help: [http://smwforum.ontoprise.com/smwforum/index.php/Help:Faceted\\_browsing\\_1.5.3](http://smwforum.ontoprise.com/smwforum/index.php/Help:Faceted_browsing_1.5.3)



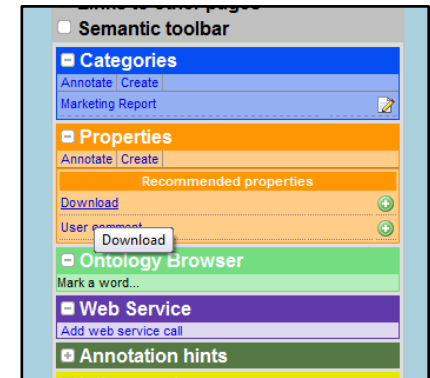
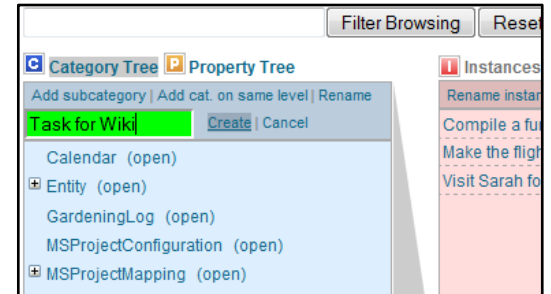


# Examples of improvements

## Ontology Browser / Semantic Toolbar

*Build up and curate the wiki structure in one place*

- Browse, create and edit categories, properties, subproperties, and instances
- Access SMW<sup>+</sup> semantic toolset with the Semantic Toolbar
- Annotate data in articles consistently (e.g. by receiving proposals for suitable annotations)



Help:

[http://smwforum.ontoprise.com/smwforum/index.php/Help:Description\\_of\\_the\\_Ontology\\_browser](http://smwforum.ontoprise.com/smwforum/index.php/Help:Description_of_the_Ontology_browser),  
[http://smwforum.ontoprise.com/smwforum/index.php/Help:Description\\_of\\_the\\_Semantic\\_toolbar](http://smwforum.ontoprise.com/smwforum/index.php/Help:Description_of_the_Semantic_toolbar)

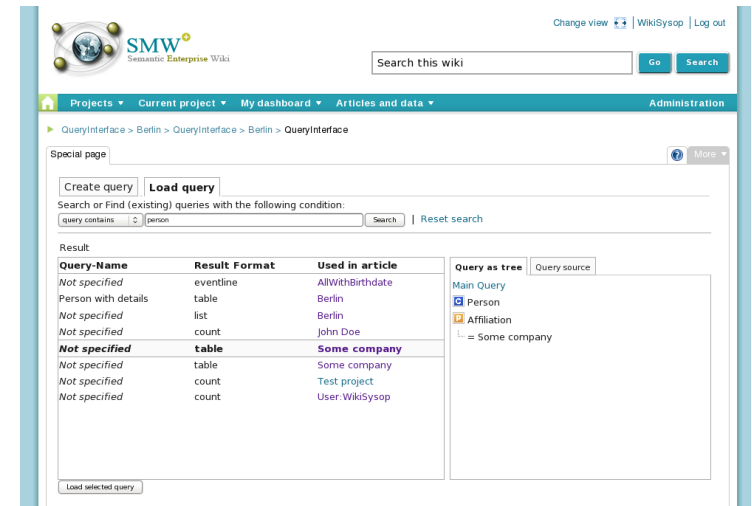


# Examples of improvements

## Query Interface

*Easy query construction with the Query Interface GUI*

- Creation, loading, editing and (re-) using of existing queries
- Handling of multiple query results and result formats
- Special query search



Help: [http://smwforum.ontoprise.com/smwforum/index.php/Query\\_Interface](http://smwforum.ontoprise.com/smwforum/index.php/Query_Interface)

- You will create a wiki page **with the WYSIWYG editor**
- You will add some data to it **with the Semantic Toolbar**
- You will experience first-hand how a community of users can contribute to a common data set.

**Follow the instructions here:**

**<http://tinyurl.com/handson1>**

## Hands-on Session II - Building an ontology, using on-the-fly forms and queries

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Ontology building **with the OntologyBrowser of SMW+**

You will learn the basic notion of ontology building

Ontology population **with Automatic Semantic Forms**

You will create new instances for our ontology

Query building with the **Query Interface of SMW+**

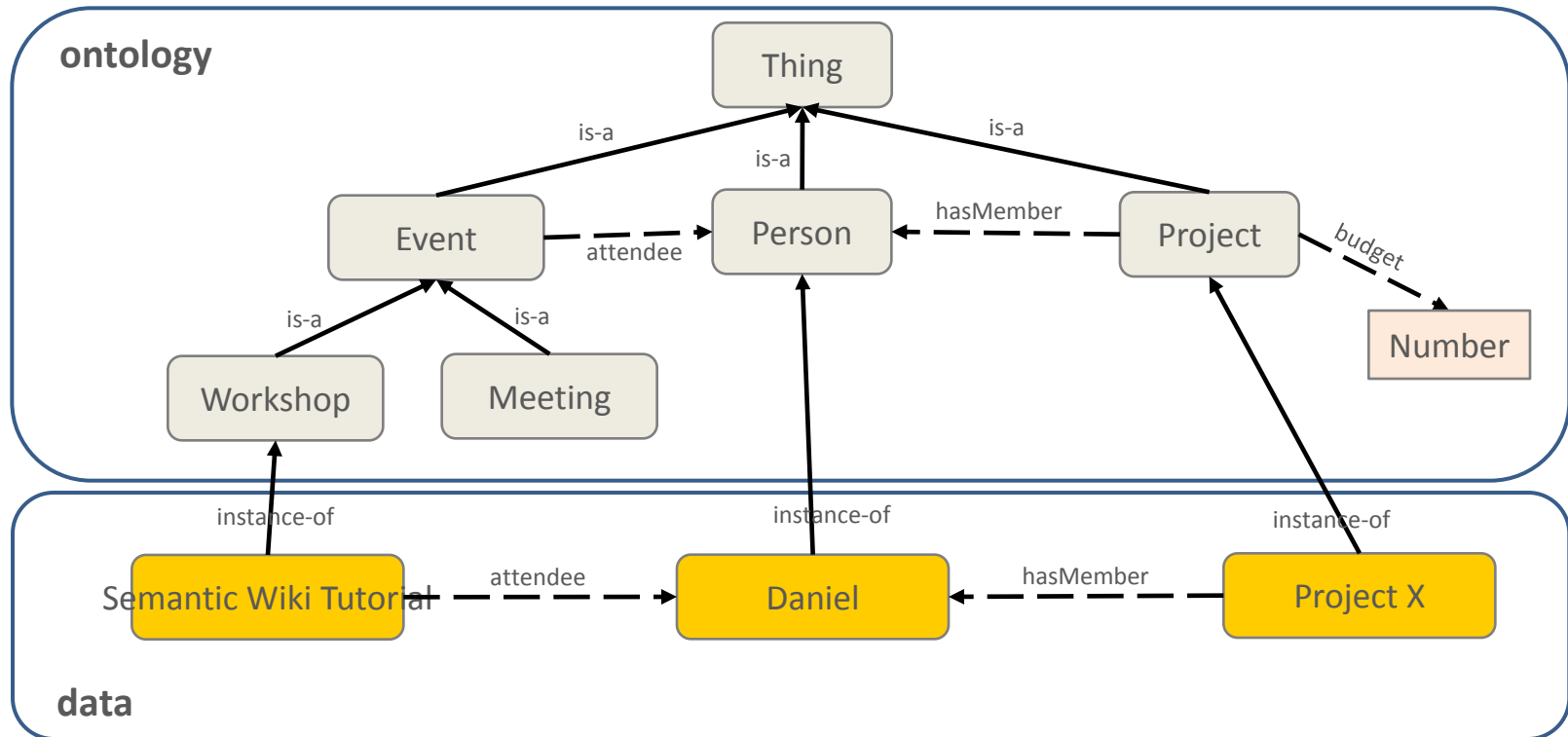
You will formulate queries to retrieve the data

You will learn how to visualize the data in different formats

# Ontologies

- What is an ontology?

*“An ontology is a formal, explicit specification of a shared conceptualization.”*



# Ontologies – Constituents

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- Ontology entities and their counterpart in the wiki

- **Category:** Wiki page in namespace „Category“

Event

- **Instance:** Any wiki page in the main namespace

Semantic Wiki Tutorial

- **Property:** Wiki page in namespace „Property“

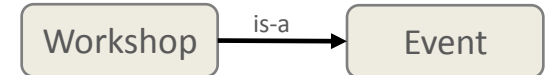
— attendee —→

# Ontologies – Constituents

- Basic ontology statements in the wiki

- Is-a:** Sub-category relation. Category page tagged with a category.

- [[Category:Event]]



- Instance-of:** Category assertion. Wiki page tagged with a category.

- [[Category:Person]]



- Relating instances:** Property on a page pointing to another page.

- [[Attendee::Daniel]]



- Attributes for instances:** Property on a page with a data value.

- [[Budget::300000]]



# Ontologies – Properties

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Properties can have properties (or characteristics)

- all characteristics are specified as annotations on the property page
- **Type** – defines the “data type” of the property (see next slide)
- **Domain** - articles of this category can have values for this property.
- **Range** - articles of this category can be objects of this property. Only relevant, if the property is of type is Page.
- **Allowed values** – Defines a set of values which are allowed for this property.
- **Minimal cardinality** - The minimum number of values of the property.
- **Maximum cardinality** - The maximum number of values of the property.

*This is good for autocompletion, proposing values, and checking validity.*



**Lets build an ontology about celebrities  
and enter data:**

**<http://tinyurl.com/SMW-Fall2011/>**

# Wrap up

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## You have learned:

- Create articles and tagging data
- Create an ontology in the OntologyBrowser
- Populate data with Automatic Semantic Forms
- Query data with the QueryInterface

## Read that after here:

<http://tinyurl.com/handson1>

## SMW<sup>+</sup>: How and where to get

### SMW<sup>+</sup> Community Edition

is available as

- Windows installer
- VMWare
- Amazon AMI
- Source Package

### SMW<sup>+</sup> Professional

enterprise ready

- Support
- Warranty
- Possibility to purchase a support plan

# Where to get SMW<sup>+</sup>

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get your copy of SMW<sup>+</sup> within 5 minutes!

Product home page: <http://www.smwplus.com>



Daniel Hansch

**Email:** [hansch@ontoprise.de](mailto:hansch@ontoprise.de)

**Web:** <http://www.ontoprise.com>